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C644 U.S.		Attorney Docket No. 2511-092		Total Pages 15																
UTILITY PATENT APPLICATION TRANSMITTAL		First Named Inventor or Application Identifier Dietmar PRZYTULLA																		
(Use for new nonprovisional applications under 37 CFR 1.53(b))		Express Mail Label No. N/A																		
APPLICATION ELEMENTS See MPEP chapter 600 concerning utility patent application contents.		ADDRESS TO: Assistant Commissioner for Patents Box Patent Application Washington, DC 20231																		
<p>1. <input checked="" type="checkbox"/> Fee Transmittal Form <i>Submit an original, and a duplicate for fee processing</i></p> <p>2. <input checked="" type="checkbox"/> Specification [Total Pages 8] <i>(preferred arrangement set forth below)</i></p> <ul style="list-style-type: none"> -Descriptive title of the Invention -Cross Reference to Related Applications -Statement Regarding Fed sponsored R&D -Reference to Microfiche Appendix -Background of the Invention -Brief Summary of the Invention -Brief Description of the Drawings <i>(if filed)</i> -Detailed Description of the Invention (including drawings, <i>if filed</i>) -Claim(s) -Abstract of the Disclosure <p>3. <input checked="" type="checkbox"/> Drawing(s) <i>(35 USC 113)</i> [Total Sheets 2]</p> <p>4. <input checked="" type="checkbox"/> Oath or Declaration [Total Sheets 2]</p> <ul style="list-style-type: none"> a. <input checked="" type="checkbox"/> Newly executed (original or copy) (Unexecuted) b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d)) <i>(for continuation/divisional with Box 17 completed)</i> <i>[Note Box 5 below]</i> <p>i. <input type="checkbox"/> DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33 (b).</p> <p>5. <input type="checkbox"/> Incorporation By Reference <i>(useable if Box 4b is checked)</i> The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as part of the disclosure of the accompanying application and is hereby incorporated by reference therein.</p> <p>17. If a CONTINUING APPLICATION, check appropriate box and supply the requisite information: <input type="checkbox"/> Continuation <input type="checkbox"/> Divisional <input type="checkbox"/> Continuation-in-part (CIP) of prior application No: filed .</p>		<p>6. <input type="checkbox"/> Microfiche Computer Program <i>(Appendix)</i></p> <p>7. <input type="checkbox"/> Nucleotide and/or Amino Acid Sequence Submission <i>If applicable, all necessary</i></p> <ul style="list-style-type: none"> a. <input type="checkbox"/> Computer Readable Copy b. <input type="checkbox"/> Paper Copy <i>(identical to computer copy)</i> c. <input type="checkbox"/> Statement verifying identity of above copies <p>8. <input type="checkbox"/> Assignment Papers (cover sheet & document(s))</p> <p>9. <input type="checkbox"/> 37 CFR 3.73(b) Statement <input type="checkbox"/> Power of Attorney <i>(when there is an assignee)</i></p> <p>10. <input type="checkbox"/> English Translation Document <i>(if applicable)</i></p> <p>11. <input type="checkbox"/> Information Disclosure Statement [IDS/PTO-1449] <input type="checkbox"/> Copies of IDS Citations</p> <p>12. <input type="checkbox"/> Preliminary Amendment</p> <p>13. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) <i>(Should be specifically itemized)</i></p> <p>14. <input type="checkbox"/> Small Entity Statement filed in prior application, Statement(s) Status still proper and desired</p> <p>15. <input type="checkbox"/> Certified Copy of Priority Document(s) <i>(if foreign priority is claimed)</i></p> <p>16. <input type="checkbox"/> Other:</p>																		
ACCOMPANYING APPLICATION PARTS																				
<p>18. CORRESPONDENCE ADDRESS</p> <p><input checked="" type="checkbox"/> Customer Number or Bar Code Label 20582 (Insert Customer No. or Attach bar code label here) <input type="checkbox"/> Correspondence address below</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">NAME</td> <td colspan="3"></td> </tr> <tr> <td>ADDRESS</td> <td colspan="3"></td> </tr> <tr> <td>CITY</td> <td>STATE</td> <td colspan="2">ZIP CODE</td> </tr> <tr> <td>COUNTRY</td> <td>TELEPHONE</td> <td colspan="2">FAX</td> </tr> </table>					NAME				ADDRESS				CITY	STATE	ZIP CODE		COUNTRY	TELEPHONE	FAX	
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ATTORNEY DOCKET NO. 2511-092

Date: March 15, 2000

Assistant Commissioner for Patents
Box PATENT APPLICATION
Washington, D.C. 20231

Sir:

The following utility patent application is enclosed for filing:

Applicant(s): Dietmar PRZYTULLA and Wilhelm Peter MEULEMAN Executed on: (Unexecuted)

Title of Invention: PLASTIC CONTAINER

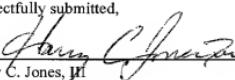
PATENT APPLICATION FEE VALUE

TYPE	NO. FILED	LESS	EXTRA	EXTRA RATE	Fee
Total Claims	7	-20	0	\$18.00 each	\$ 0.00
Independent	1	-3	0	\$78.00 each	\$ 0.00
Minimum Fee					
Multiple Dependency Fee If Applicable (\$260.00)					
Total					
50% Reduction for Independent Inventor, Nonprofit Organization or Small Business Concern (a verified statement as to the applicant's status is attached)					
Total Filing Fee					

- Priority of application no. DE 299 07 189.8 filed on April 22, 1999 in Germany is claimed under 35 U.S.C. § 119.
- The certified copy of the priority application has been filed in application no. filed
- Amend the specification by inserting before the first line the following sentence: This is a continuation-in-part of application no. filed .

Please charge the required fee to Pennie & Edmonds LLP Deposit Account No. 16-1150. A copy of this sheet is enclosed.

Respectfully submitted,


Harry C. Jones, III
PENNIE & EDMONDS LLP

20,280

(Reg. No.)

Enclosure

This form is not for use with continuation, divisional, re-issue, design or plant patent applications.

Plastic Container

BACKGROUND OF THE INVENTION

The invention relates to a large-volume container made of thermoplastic material.

The container can be designed as a tight-sealed barrel or a barrel with a loose lid with a clamping ring.

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Large-volume containers exhibit a capacity (filling volume) of approximately 100 liters or more and are used in their tight-sealed barrel embodiment for storing and transporting liquid contents and in the loose lid embodiment preferably for receiving solid, particle-shaped or pasty contents (e.g. rubble, granulate, powders, pastes, etc.).

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SUMMARY OF THE INVENTION

The object of the present invention is to provide a generic container, in which, through a change in its design, improved use of the floor space on pallets can be achieved, and also through constructive measures a lessening of the tendency to bulge out.

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This object is attained according to the invention, in that the shape of the body of the barrel exhibits one of sectional area approaching the shape of a square with slightly embossed side surfaces and rounded corner areas. Through this measure, better use of the floor space on pallets is achieved. The unused volume of space in between stacked barrels according to 20 the invention is considerably reduced in comparison to traditional round barrels and use of

previously unused space volume for freight (e.g. with ISO containers) is increased.

In the design of the invention it is provided that the body of the barrel is equipped with vertically and/or horizontally running stiffening elements, the denting of the flattened side walls is considerably reduced.

The stiffening elements can be designed as open U-shaped or V-shaped rib-like forms that run toward the inside and/or to the outside.

Advantageously, the horizontally running stiffening elements can be designed as molded and thickened mold hoops, for a stable design of the barrel body. Advantageously, the mold hoops are molded during the blow molding of the barrel body through a stamping-out process from the walls of the barrel body. So that the mold hoops exhibit approximately the same exterior diameter as the remaining barrel wall, they can be arranged in an approximately V-shaped mold that rounds around toward and is open toward the outside.

The plastic barrel according to the invention is further distinguished by the following features and advantages:

In an embodiment as a tightly sealed barrel, a central bung piece is located, if necessary, in a die-sunk bung mold, on the upper barrel floor, so that it is protected. In another embodiment, two lateral bung pieces are located in appropriately die-sunk bung

house on the upper barrel floor. On the upper circumference of the barrel body, an L-ring is designed as a handling ring. The stiffening elements are U-shaped or V-shaped rib-like molded parts that are open toward the inside and/or toward the outside. The horizontally running stiffening elements are designed as thickened mold hoops molded from the walls of
5 the barrel. The mold hoops are molded from the wall of the barrel body by a stamping-out process during the blow molding of the barrel body. The mold hoops that have been stamped can be arranged in such a way that they run around the circumference in a somewhat V-shaped form, open toward the outside. When only one stiffening ring running around the circumference is provided, then it is located in an area of the barrel body from the middle to
10 the lower third of the barrel body, preferably measured at a height of approximately 43% from the floor of the barrel.

Thus the following advantages are achieved: The stiffness and resistance to denting of the flattened areas of the walls of the barrel and the ease of loading the containers in stacks
15 is overall enhanced.

BRIEF DESCRIPTION OF THE DESCRIPTION

The invention is further explained and described below in the drawings of the embodiments that are presented. The following is shown:

20 Fig. 1 is a top view of a container according to the invention;

Fig. 2 is a side view of another container according to the invention, with a partial sectional view in the upper and lower area;

Fig. 3 is a sectional view through the barrel body of a container according to the invention with a circular comparison; and

Fig. 4 is a side view of another container according to the invention with a partial section view in the upper and lower area.

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DETAILED DESCRIPTION OF THE INVENTION

Reference number 10 shows a large-volume blow molded bung barrel made of thermoplastic material in Fig. 1 with a capacity of 250 liters, which is equipped on the upper wall of the container with L-ring 12 that runs around the circumference as a handling hoop.

In the top of the barrel are located two side bungs 14 in die-sunk bung molds 16. In this top view, the square-shaped design becomes clear, namely that the barrel bottom exhibits a sectional surface that approximates the shape of a square with side surfaces that are slightly embossed and rounded corner areas.

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Fig. 2 shows an embodiment with a bung 14 centrally located in a bung mold 16. In the left half the picture, the bung barrel 10 is equipped with a foot hoop 18 that runs around the circumference (a hoop that allows it be rolled over the floor), while in the right half of the picture, another embodiment without a foot hoop is shown.

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Fig. 3 shows a cross-section through the wall of a barrel body according to the invention, which can be designed as a barrel with a loose lid. In comparison to that, a circle with the same circumferential length is superimposed over it. This circle is intended to show

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the usual bulging-out tendency of a barrel filled with content. Thus the barrel has a tendency to bulge out on the flat areas of the wall and to pull inward in the areas of the corners, and thereby to assume a circular shape as the shape with the least tension. To work against this disadvantageous tendency, the barrel body, as shown at the left side in Fig. 4, is equipped with a mold hoop 22 that runs around its circumference. This mold hoop 22 is measured at a height of about 43% from the floor, is inserted in molded piece 20 in such a way that the circumference of the mold hoop and the rest of the barrel body are approximately the same. The mold hoop can stick out slightly, so that barrels standing next to one another touch one another with their mold hoop. The right side of Fig. 4 shows a molded piece as a stiffening element. Here the molded piece is open toward to outside of the barrel body.

Claims

1.) Container (10) made of thermoplastic material, characterized in that
the barrel body exhibits a cross-section surface that approaches the shape of a square
5 with slightly embossed side surfaces and rounded corner areas.

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2.) Container according to claim 1, characterized in that
the barrel body is equipped with one or more stiffening elements that run vertically
and/or horizontally.

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3.) Container according to claim 1, characterized in that
the stiffening elements are designed as U-shaped or V-shaped molded pieces that are
open toward the inside and/or toward the outside of the barrel body.

4.) Container according to claim 1, characterized in that
the horizontally running stiffening elements are designed as thickened mold hoops
molded out of the wall of the barrel.

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5.) Container according to claim 4, characterized in that
the mold hoops are formed out of the wall of the barrel body by a stamping-out
process during the blow molding of the barrel body.

6.) Container according to claim 5, characterized in that

the mold hoops that have been stamped out are arranged in a somewhat V-shaped
molded piece that runs around the circumference and is open toward the outside.

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7.) Container according to one of the foregoing claim 4, characterized in that

only one mold hoop running around the circumference is provided, and is located in
an area of the barrel body, measured from the middle to the lower third of the barrel body, at
a height of approximately 43% from the floor of the barrel.

ABSTRACT

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A barrel body with a cross-section surface that approaches the shape of a square with slightly embossed side surfaces and rounded corner areas. The barrel body can be equipped with stiffening elements that run vertically and/or horizontally.



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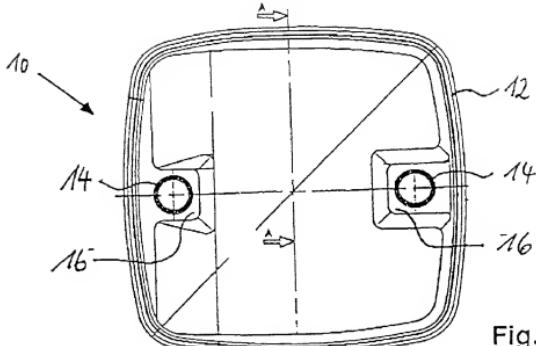


Fig. 1

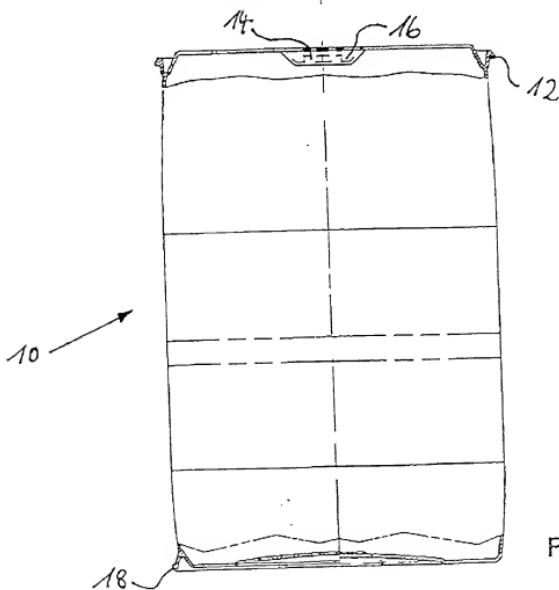


Fig. 2

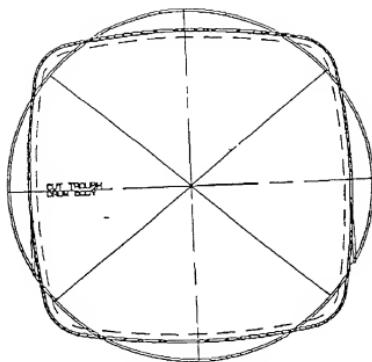


Fig. 3

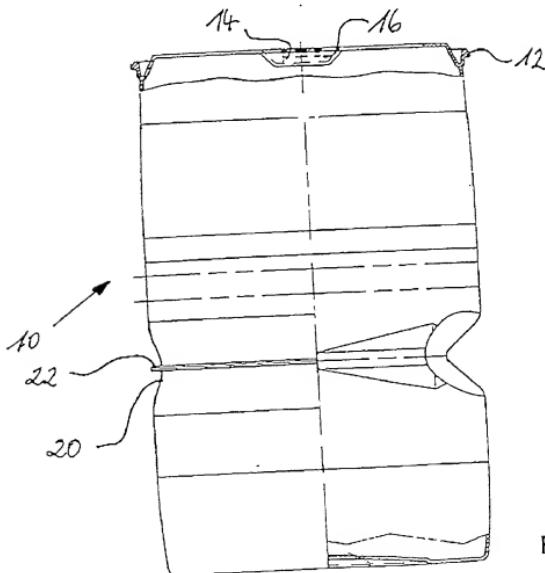


Fig. 4

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AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below at 201 et seq. underneath my name

I believe I am the original, first and sole inventor if only one name is listed at 201 below, or an original, first and joint inventor if plural names are listed at 201 et seq. below, of the subject matter which is claimed and for which a patent is sought on the invention entitled

PLASTIC CONTAINER

and for which a patent application

is attached hereto and includes amendment(s) filed on *(if applicable)*

was filed in the United States on as Application No. *(for disclosure not accompanying application)*

with amendment(s) filed on *(if applicable)*

was filed as PCT international Application No. on and was amended under PCT Article 19 on *(if applicable)*

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment referred to above

I acknowledge the duty to disclose information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED PRIOR TO THE FILING DATE OF THE APPLICATION			
APPLICATION NUMBER	COUNTRY	DATE OF FILING (day, month, year)	PRIORITY CLAIMED
DE 299 07 189.8	Germany	22 April 1999	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
			YES <input type="checkbox"/> NO <input type="checkbox"/>

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below

APPLICATION NUMBER	FILING DATE

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

APPLICATION SERIAL NO.	FILING DATE	STATUS		
		PATENTED	PENDING	ABANDONED

POWER OF ATTORNEY As a named inventor, I hereby appoint S Leslie Misrook (Reg. No. 18872), Harry C Jones, III (Reg. No. 20280), Ben A. Terrian (Reg. No. 20060), David Weild, III (Reg. No. 21094), Jonathan A. Marshall (Reg. No. 24614), Barry J. Reiter (Reg. No. 22111), Steven T. Lawrence, III (Reg. No. 25736), Charles E. McKenney (Reg. No. 22795), Philip J. Shannon (Reg. No. 27781), Michael Morris (Reg. No. 24615), Charles E. Miller (Reg. No. 24576), Gidon D. Stern (Reg. No. 27469), John L. Lauder (Reg. No. 29144), Brian M. Yostman (Reg. No. 28462), Brian D. Coggi (Reg. No. 27624), Rory J. Radding (Reg. No. 28749), Stephen J. Schubert (Reg. No. 29166), Donald J. Goodell (Reg. No. 19766), James N. Palik (Reg. No. 25510), Thomas E. Freibel (Reg. No. 29258), Laura A. C. O'Neil (Reg. No. 30742), Jennifer Gordon (Reg. No. 30753), Allan A. Fanucco (Reg. No. 30256), Geraldine E. Baldwin (Reg. No. 31222), Victor N. Balancia (Reg. No. 31231), Samuel B. Abrams (Reg. No. 30605), Steven I. Wallach (Reg. No. 35402), Marcia H. Sandeen (Reg. No. 30893), Paul J. Zegger (Reg. No. 33821), Edmund R. Bannon (Reg. No. 32110), Bruce J. Barker (Reg. No. 33291), Adriane M. Antler (Reg. No. 32605), Thomas G. Rowan (Reg. No. 34419), James G. Markey (Reg. No. 31231), Thomas D. Kohler (Reg. No. 32797), Scott D. Stimpson (Reg. No. 33607), Gary S. Williams (Reg. No. 31066), William S. Galliani (Reg. No. 33885), Ann L. Gisolfi (Reg. No. 31956), Todd A. Wagner (Reg. No. 35399), Scott B. Famulant (Reg. No. 35514), Kelly D. Talcott (Reg. No. 39582), Francis D. Cerrito (Reg. No. 38100), Anthony M. Insogna (Reg. No. 35203), Brian M. Rothery (Reg. No. 35340), Brian D. Sift (Reg. No. 35679), and Alan Tenenbaum (Reg. No. 34939), all of Pennie & Edmonds LLP, whose addresses are 1155 Avenue of the Americas, New York, New York 10036, 1667 K Street N.W., Washington, DC 20006 and 3300 Hillview Avenue, Palo Alto, CA 94304, and each of them, my attorneys, to prosecute this application, and to transact all business in the Patent and Trademark Office connected therewith.

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